REMARKS

Status:

Claims 1-3, 7-11, and 18-22 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over the teaching of U. S. Pat. No. 5,678,015 (hereinafter "Goh") in view of the teaching of U. S. Pat. No. 6,636,246 (hereinafter "Gallo"). Claims 4-6 and 15-17 also stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over the teaching of Goh in view of the teaching of Gallo.

Fig. 5 of the drawings is objected to for including numbered elements (555 and 560) that are not discussed in the specification.

Claims 1-22 are presented for reconsideration in view of the analysis provided below.

Analysis:

The Specification is amended at page 21 to add discussion of elements 555 and 560. This is believed to overcome the objection to the drawings. No new matter is believed to be added as the discussion adds only information evident from the text and connection of the logic blocks 555 and 560 at Fig. 5.

Now considering the obviousness rejections of the Office Action, Applicant respectfully disagrees with the examiner's position that Goh teaches "*a three-dimensional workspace with real-time rotation **with icons oriented to be facing the user.***" (Office Action, at page 3 lines 6-7, bolding added). At Fig. 5, Goh shows no icons facing the user - all are clearly angled to the user. The distorted, angled view of icons is perhaps even more extreme in Goh Fig. 6. This distortion results because the Goh teaching is for the icons to be applied ("texture mapped", Goh at col. 5, lines 50-53) onto the surface of the 3-D object (polyhedron) - an orientation approach in which the surface

- 11 -

shape at the icon position controls viewing angle (as Goh Figs. 5 and 6 clearly demonstrate). Applying by texture mapping, as taught by Goh, aligns the icon with the surface, whereas Applicant's claim 1 (and claims dependent thereon) call for aligning the icons to face the viewpoint. According to an aspect of Applicant's invention, the position is taken from the surface but the orientation is not. This distinction is more clearly emphasized by the addition of *"irrespective of position on the surface"* in claims 1 and 13.

As Applicant emphasizes at p. 17, lines 5-11 of the Specification *"When an icon is displayed following a change in the icons position...the icon is not distorted in any way. Instead the only parameter that changes is icon size. Therefore unwanted effects, such as being displayed as an elongated icon or an icon being displayed upside down, are avoided. Thus icons are always drawn in their normal proportions and the right way up"*. Applicant uses the position for locating the icon but specially orients the icon toward the viewer, rather than imprinting the icon on the surface.

Gallo does not overcome this distortion shortcoming of the Goh teaching. Looking to Gallo Fig. 4, the sensory cue 18 appears to be applied to the portal surface (same as Goh teaching). Comparing the center vertical set of portals in Fig. 10 and 11, the width of the respective sensory cues 18 (icons substitutes) is constant top to bottom but the height is greater at the center than at the top or bottom. This indicates size is adjusted according to angle of the surface to the viewer but not distance (which, as shown, increases a the sphere falls away from the viewer).

This is counter to the sizing (discussed more fully below) and orientation taught by Applicant which orients icons relative to the viewpoint to avoid angular distortion and provides a size adjustment respective of apparent distance from the viewpoint to the icon location on the shape (see Applicant Figs. 8 and 9).

- 12 -

As explained above, the application of the prior art to Applicants claims, that is asserted in the recent Office Action, is on close inspection believed contrary to the prior art teachings. The Goh and Gallo references teach imprinting on a surface with resultant deficiencies of icon distortion which Applicant recognizes and overcomes. Moreover, neither Goh nor Gallo, as explained above, suggests or teaches individual icons being sized according to apparent distance from the viewpoint, considering the icon position on the 3-D shape.

Accordingly Applicant respectfully requests that this amendment be entered and that the rejections of the claims under 35 USC 103 be withdrawn to allow this case to proceed to allowance. Early notice of to that effect is earnestly solicited.

Respectfully Submitted,

George E. Grosser

Reg. No. 25,629I

c/o

IBM Corp.
Dept. T81/Bldg. 503 PO Box 12195
Research Triangle Park, NC 27709

(919)968-7847
Fax 919-254-4330
EMAIL: gegch@prodigy.net

- 14 -

Applicant, also, strongly disagrees with the Office Action analysis at page 3 last paragraph continuing on p. 4) which states that Goh teaches "means for **scaling each of a plurality of icons by the relevant viewing distance**" (bolding added). Where does Goh teach or suggest such scaling?

Goh Indicates at col. 5, lines 50-54 that the icons are applied by texture mapping "*which is the application of an image to the surface of a displayed object.*" No mention is made of special scaling for distance from the viewer for each icon. Looking to Goh Fig. 5, the mailbox on the left front surface is the same height as the more distant one on the right rear surface. It appears no correction is made for the distance between icons on these parallel (same angle to viewer) surfaces. It does, however, appear that icon shape distortion is introduced respective of angle to the viewpoint (compare, for example, the xcalc icons at the left front and right front polyhedron surfaces, which are at different angles to the viewer, and evidence, by their difference in width, significant icon shape distortion).

As discussed above, looking to the Gallo teaching at Fig. 10 and 11, the vertical, central set of sensory cues 18 indicates no narrowing off-center (moving up or down) as viewer distance to the shape increases because of the receding 3-D surface, but there is shown height change (distorting change in one dimension), apparently, reflecting angular change. Contrary to Applicant's approach - Gallo, like Goh, teaches off center distortion and also no apparent distance sizing as a position cue to the user.

Claim 1 calls for "*the icons being oriented to be facing the user viewpoint irrespective of position on the surface*". Claim 12 calls for "*each icon being sized according to its apparent distance from the viewpoint*". These and other recitations are carried into the dependent claims.